MISSILE DEFENSE AGENCY

Fact Sheet

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Ground-Based Midcourse

The mission of the Ground-Based Midcourse Defense element of the Ballistic Missile Defense System is to defend the nation, our deployed personnel, and our friends and allies against long-range ballistic missile attacks.

Overview

- Uses an array of sensors, radars and ground-based interceptors, capable of shooting down long-range ballistic missiles during the midcourse phase of flight.
- Directly hits the incoming missile by ramming the warhead at nearly 15,000 miles per hour to destroy it. This is called "hit-to-kill" technology and has been proven to work in a number of flight tests.

Details

Ground-based Midcourse Defense is composed of three main components: sensors, ground-based interceptors, and fire, control and communications.

- Sensors: Ground-Based Midcourse Defense uses a variety of sensors and radars to obtain information on missile launches and to track, discriminate and target an incoming warhead. This information is provided to the Ground-Based Interceptor before launch and during flight to help it find the incoming ballistic missile and close with it.
- Ground-Based Interceptor: A Ground-Based Interceptor is made up of a three stage, solid fuel booster and an exoatmoshperic kill vehicle. When launched, the booster missile carries the kill vehicle toward the target's predicted location in space after receiving in-flight updates from the ground. Once released from the booster, the 125 lb kill vehicle uses data from ground-based radars and its own on-board sensors to close with and destroy the target using only the force of the impact.
- Fire Control and Communications: This is the central nervous system of the Ground-Based Midcourse Defense element. It connects all of the hardware, software and communications systems necessary for planning, tasking and controlling Ground-Based Midcourse Defense.

Development

- Six interceptor missiles are emplaced in silos at Fort Greely, Ala. Ten more are planned for 2005. There are two additional interceptor missiles in place at Vandenberg Air Force Base, Calif.
- Ground-Based Midcourse Defense command and control centers have been established in Colorado and Alaska.
- Several existing early warning radars located around the world, including one on Shemya Island in the Alaskan Aleutian chain, are being upgraded to support flight tests and to provide tracking information in the event of a hostile missile attack.
- Also nearing completion is a powerful, mobile Sea-based X-Band radar that will begin sea trials and operation in 2005. Its mission will be much the same as its land-based counterparts.